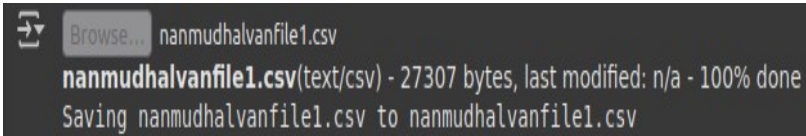


1.Upload the Dataset

```
from google.colab import files  
uploaded = files.upload()
```



2.Load the Dataset

```
import numpy as np  
import pandas as pd  
import matplotlib.pyplot as plt  
import seaborn as sns  
df = pd.read_csv('nanmudhalvanfile1.csv')
```

3.Data Exploration

```
df.head()
```

	Date	Symbol	Series	Prev Close	Open	High	Low	Last	Close	VWAP	Volume	Turnover	Trades	Deliverable	Volume	%Deliverble
0	01/01/15	INFY	EQ	1972.55	1968.95	1982.00	1956.9	1971.00	1974.40	1971.34	500691	987000000000000	14908		258080	0.5154
1	01/02/15	INFY	EQ	1974.40	1972.00	2019.05	1972.0	2017.95	2013.20	2003.25	1694580	339000000000000	54166		1249104	0.7371
2	01/05/15	INFY	EQ	2013.20	2009.90	2030.00	1977.5	1996.00	1995.90	2004.59	2484256	498000000000000	82694		1830962	0.7370
3	01/06/15	INFY	EQ	1995.90	1980.00	1985.00	1934.1	1965.10	1954.20	1954.82	2416829	472000000000000	108209		1772070	0.7332
4	01/07/15	INFY	EQ	1954.20	1965.00	1974.75	1950.0	1966.05	1963.55	1962.59	1812479	356000000000000	62463		1317720	0.7270

Next steps: [Generate code with df](#) [View recommended plots](#) [New interactive sheet](#)

4. Visualize a Few Features

```
import pandas as pd
import numpy as np
df = pd.read_csv('nanmudhalvanfile1.csv')
df['Date'] = pd.to_datetime(df['Date'])
df.set_index('Date', inplace=True)
from sklearn.preprocessing import MinMaxScaler
scaler = MinMaxScaler()
scaled_data = scaler.fit_transform(df[['Close']])

def create_sequences(data, seq_length):
    X, y = [], []
    for i in range(seq_length, len(data)):
        X.append(data[i-seq_length:i, 0])
        y.append(data[i, 0])
    return np.array(X), np.array(y)
sequence_length = 60
X, y = create_sequences(scaled_data, sequence_length)
X = np.reshape(X, (X.shape[0], X.shape[1], 1))

from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import LSTM, Dense
model = Sequential()
model.add(LSTM(50, return_sequences=True, input_shape=(X.shape[1], 1)))
model.add(LSTM(50))
model.add(Dense(1))
model.compile(optimizer='adam', loss='mean_squared_error')
model.fit(X, y, epochs=10, batch_size=32)
```

```

Epoch 1/10
/usr/local/lib/python3.11/dist-packages/keras/src/layers/rnn/rnn.py:200: UserWarning: Do not pass an `input_shape` / `input_dim` argument to a layer. When using Sequential models, prefer using an `Input(shape)`
  super().__init__(**kwargs)
6/6 ————— 4s 54ms/step - loss: 0.1468
Epoch 2/10
6/6 ————— 1s 50ms/step - loss: 0.0360
Epoch 3/10
6/6 ————— 1s 49ms/step - loss: 0.0203
Epoch 4/10
6/6 ————— 1s 49ms/step - loss: 0.0242
Epoch 5/10
6/6 ————— 0s 53ms/step - loss: 0.0203
Epoch 6/10
6/6 ————— 0s 50ms/step - loss: 0.0167
Epoch 7/10
6/6 ————— 1s 53ms/step - loss: 0.0109
Epoch 8/10
6/6 ————— 1s 50ms/step - loss: 0.0159
Epoch 9/10
6/6 ————— 0s 55ms/step - loss: 0.0098
Epoch 10/10
6/6 ————— 0s 49ms/step - loss: 0.0121
<keras.src.callbacks.history.History at 0x78b040b78650>

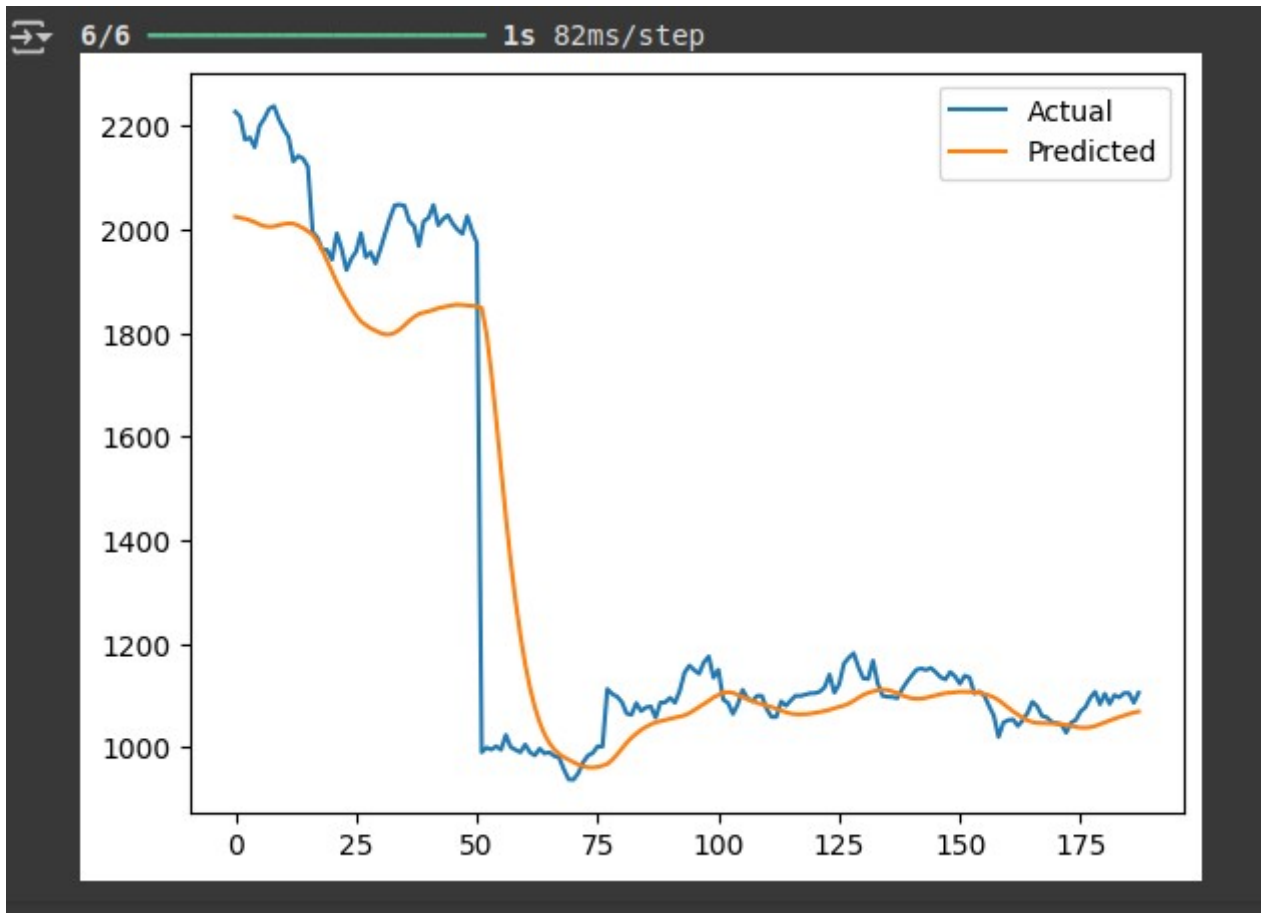
```

```
predicted = model.predict(X)
```

```

predicted_prices = scaler.inverse_transform(predicted.reshape(-1, 1))
import matplotlib.pyplot as plt
actual = scaler.inverse_transform(y.reshape(-1, 1))
plt.plot(actual, label='Actual')
plt.plot(predicted_prices, label='Predicted')
plt.legend()
plt.show()

```



5. Deployment-Building an Interactive App

```
pip install gradio
import gradio as gr
def predict_next(prices):
    input_seq = scaler.transform(np.array(prices).reshape(-1, 1))
    X_input = np.reshape(input_seq[-60:], (1, 60, 1))
    pred = model.predict(X_input)
    return scaler.inverse_transform(pred)[0][0]
interface = gr.Interface(
    fn=predict_next,
    inputs=gr.Dataframe(headers=["Close Prices"], row_count=60),
```

```

outputs="number",
title="AI Stock Price Predictor",
description="Enter the last 60 days of closing prices to predict the next
day's price."
)
interface.launch()

```

```

Requirement already satisfied: python-dateutil<=2.8.2 in /usr/local/lib/python3.11/dist-packages (from pandas<3.0,>=1.0->gradio) (2.9.0.post0)
Requirement already satisfied: pytz<=2020.1 in /usr/local/lib/python3.11/dist-packages (from pandas<3.0,>=1.0->gradio) (2025.2)
Requirement already satisfied: tzdata<=2022.7 in /usr/local/lib/python3.11/dist-packages (from pandas<3.0,>=1.0->gradio) (2025.2)
Requirement already satisfied: annotated-types<=0.6.0 in /usr/local/lib/python3.11/dist-packages (from pydantic<2.12,>=2.0->gradio) (0.7.0)
Requirement already satisfied: pydantic-core<=2.33.1 in /usr/local/lib/python3.11/dist-packages (from pydantic<2.12,>=2.0->gradio) (2.33.1)
Requirement already satisfied: typing-inspection<=0.4.0 in /usr/local/lib/python3.11/dist-packages (from pydantic<2.12,>=2.0->gradio) (0.4.0)
Requirement already satisfied: click<=8.0.0 in /usr/local/lib/python3.11/dist-packages (from typer<1.0,>=0.12->gradio) (8.1.8)
Requirement already satisfied: shellingham<=1.3.0 in /usr/local/lib/python3.11/dist-packages (from typer<1.0,>=0.12->gradio) (1.5.4)
Requirement already satisfied: rich<=10.11.0 in /usr/local/lib/python3.11/dist-packages (from typer<1.0,>=0.12->gradio) (13.9.4)
Requirement already satisfied: six<=1.5 in /usr/local/lib/python3.11/dist-packages (from python-dateutil<=2.8.2->pandas<3.0,>=1.0->gradio) (1.17.0)
Requirement already satisfied: markdown-it-py<=2.2.0 in /usr/local/lib/python3.11/dist-packages (from rich<=10.11.0->typer<1.0,>=0.12->gradio) (3.0.0)
Requirement already satisfied: pygments<3.0.0,>=2.13.0 in /usr/local/lib/python3.11/dist-packages (from rich<=10.11.0->typer<1.0,>=0.12->gradio) (2.19.1)
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.11/dist-packages (from requests->huggingface-hub<=0.28.1->gradio) (3.4.1)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.11/dist-packages (from requests->huggingface-hub<=0.28.1->gradio) (2.4.0)
Requirement already satisfied: mdurl<=0.1 in /usr/local/lib/python3.11/dist-packages (from markdown-it-py<=2.2.0->rich<=10.11.0->typer<1.0,>=0.12->gradio) (0.1.2)
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 54.1/54.1 MB 8.1 MB/s eta 0:00:00
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Downloading ruff-0.11.8-py3-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (11.5 MB)
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Downloading semantic-version-2.10.0-py2.py3-none-any.whl (15 kB)
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 62.5/62.5 kB 4.8 MB/s eta 0:00:00
Downloading ffmpeg-0.5.0-py3-none-any.whl (6.0 kB)
Downloading pydub-0.25.1-py2.py3-none-any.whl (32 kB)
Installing collected packages: pydub, uvicorn, tomkit, semantic-version, ruff, python-multipart, groovy, ffmpeg, aiofiles, starlette, safehttpx, gradio-client, fastapi, gradio
Successfully installed aiofiles-24.1.0 fastapi-0.115.12 ffmpeg-0.5.0 gradio-5.29.0 gradio-client-1.10.0 groovy-0.1.2 pydub-0.25.1 python-multipart-0.0.20 ruff-0.11.8 safehttpx-0.1.6 semantic-version-2.10.0 starlette-0.46.2 tomkit-0.13.2 uvicorn-0.34.2
It looks like you are running Gradio on a hosted Jupyter notebook. For the Gradio app to work, sharing must be enabled. Automatically setting `share=True` (you can turn this off by setting `share=False` in
Colab notebook detected. To show errors in colab notebook, set debug=True in launch()
* Running on public URL: https://fbc9bbb18ae37ebb78.gradio.live

```

This share link expires in 1 week. For free permanent hosting and GPU upgrades, run `gradio deploy` from the terminal in the working directory to deploy to Hugging Face Spaces (<https://huggingface.co/spaces>)


```
Collecting gradio
  Downloading gradio-5.29.0-py3-none-any.whl.metadata (16 kB)
Collecting aiofiles<25.0,>=22.0 (from gradio)
  Downloading aiofiles-24.1.0-py3-none-any.whl.metadata (10 kB)
Requirement already satisfied: anyio<5.0,>=3.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (4.9.0)
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Requirement already satisfied: fsspec in /usr/local/lib/python3.11/dist-packages (from gradio-client==1.10.0->gradio) (2025.3.2)
Requirement already satisfied: websockets<16.0,>=10.0 in /usr/local/lib/python3.11/dist-packages (from gradio-client==1.10.0->gradio) (15.0.1)
Requirement already satisfied: idna>=2.8 in /usr/local/lib/python3.11/dist-packages (from anyio<5.0,>=3.0->gradio) (3.10)
```